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ABSTRACT

This study sought to determine if self-directed learning (SDL) experiences produced higher levels of academic achievement than traditional, teacher-directed learning experiences. Out of a group of 720 first-year students at the United Arab Emirates University, instructors identified 86 SDL students who completed all homework assignments, did extra studying on their own, participated in class, consulted instructors outside of class, and visited the university's independent learning center (ILC). A second group of 164 students, referred to as ILC students, was randomly selected from among the 795 students who used the ILC at least one time during the semester. The study found that 94 percent of the SDL and 85 percent of the ILC students passed the first-year final exams, whereas only 73 percent of all first-year students passed the exam. The results suggest that students who exhibit more SDL behaviors perform better than students who do not. The uses of SDL in higher education are discussed. (Contains 15 references.) (MDM)

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HOW EFFECTIVE IS SELF-DIRECTED LEARNING AT GENERATING SUCCESSFUL LEARNING EXPERIENCES, AND WHAT IS ITS ROLE WITHIN HIGHER EDUCATION?

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Introduction

When I think about self-directed learning (SDL), I am reminded of my eleventh grade English teacher. I had had many teachers before him, some who were good and others who were quite bad, but his approach to learning is what changed my ideas about teaching.

That particular year, instead of offering the typical American Literature course, he decided to offer a course on the Transcendentalist movement in the United States. This movement occurred during the nineteenth century, and its proponents wanted people to transcend the distractions of their daily lives and achieve a state of being close to perfection. This course was an extraordinary undertaking because students were not only expected to read about the important social issues of that period, but were also expected to discuss them in detail, with special emphasis on their feelings and ideas about whatever subjects were raised. In addition, each of us had to find something interesting about one of the founders of the movement and do a presentation on his/her life in relation to the movement as a whole. We were not given any topics from which to choose, and we had to come up with our own ideas and resources. This was very difficult because in addition to not having heard of people like Walt Whitman, Emily Dickinson, Henry David Thoreau, or Ralph Waldo Emerson, most of us had never before been given the opportunity to discuss and pursue our own interests about a subject.

I selected Emerson, not because I had read about him or even read any of his works, but because of the *Concord Sonata* by Charles Ives. I had heard this extremely moving and powerful music on several occasions, and was particularly impressed with the movement entitled, *Emerson*. I went to the library to find whatever I could about Emerson, and found his diary and a book which contained some of his writings. I was surprised to find that he had not written a book per se, but had only written essays on various subjects. As I read his essays, I became enchanted by his demand for the pursuit of excellence, and how this was directly related to fulfilling his idea about what it is to be human. It was when I read a diary entry about the death of his son, however, that I finally understood the great similarity between this episode in his life and the music of Charles Ives.

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For my presentation, I read some of the diary passages about his son's death and some excerpts from his essays, with the music of Charles Ives providing the drama that so clearly exuded the essence of Emerson. When I had finished, my teacher and my classmates were in awe, and as an eleventh grader in the prime of adolescence, I thought that I had done something quite fantastic.

Aside from boosting my ego, Emerson had managed to get inside of me, and I truly sought to aspire to fulfill the mission that he so fervently lauded. Many years have passed since then, but I know that I have the values that I have today because of that one fantastic experience with a teacher who clearly understood the power of teaching and the role of SDL in education.

I am sure that everyone has a similar story to tell about the one (and possibly only) time that they were engaged in something that they found captivating to the degree of having a long-term impact of their lives. It is unfortunate that these experiences are the rarities that they are, because they are the foundation for true learning (cf. Ahdieh, 1974; Bierwirth, 1973; Hubbard, 1994b; Neill, 1960; Postman and Weingartner, 1969; and Smith, 1986).

Let's look at what happened in my eleventh grade English class to see if we can get a definition of SDL. First of all, it was **self-initiated and self-guided** in that I chose the topic and the subject, and sought out the resources that were needed to fulfill my goals. It was **self-sustained and self-terminated** in that I decided how much time I wanted to spend, and I decided when the project was completed. In addition, it **encouraged the pursuit of excellence** and **acknowledged and rewarded the results that were achieved**. In essence, this situation forced me to do my best, and when I had done so, my efforts were recognized and praised. However, what distinguished this course from any other course that I had ever taken is that I was **free to ask questions** that were important to me **and seek answers** to those questions, rather than being forced to learn something that someone else wanted me to learn. Thus, this course, like so many others that have this kind of impact, was centered on a Question-Based Curriculum (cf. Hubbard, 1994b; Neill, 1960; Postman and Weingartner, 1969; and Smith, 1986). This is a curriculum that is devoted to finding answers to questions, and a syllabus that helps learners discover the questions that are relevant and meaningful for them.

In an effort to determine if SDL produces superior results to traditional learning, I initiated a research project at the United Arab Emirates University. To better understand the results of this project, it is necessary to present some background information on the university.

The United Arab Emirates University

Founded in 1978, the United Arab Emirates University (U.A.E.U.) is the national university of the United Arab Emirates, which is located in the

Middle East on the Arabian Peninsula. Up to and including the 1993 - 1994 academic year, the University had an open door policy, in that students were allowed admission as long as they had completed secondary school. With such a policy, it became necessary to establish a foundations program in 1990 to address the needs of students who were not adequately prepared for university level work. The foundations program is comprised of four required courses, which are Arabic, English, English for Mathematics, and Computer Literacy, and each one of them has four levels. All courses except Arabic are conducted in English. This is because the language policy of the country is that all citizens should be competent bilinguals, with English as the main second language.

All entering students are required to take a placement exam which determines where they will be placed in the foundations program. In some rare cases, however, students are exempted from the foundations program because they already possess the skills necessary to be successful in the university. But, most students have to take one or more of the four required courses, and may either start at the beginning level of that course or at some other point.

Once students have been placed in the appropriate level, they take an eight - sixteen week class at that level (and for any subsequent levels), which is culminated in a final exam. It is the results of the final exams at the end of the first semester that were used to make the comparisons between the students identified below.

Before I proceed to discuss the results, however, I would like to clarify one point. Success has to be determined by the individual concerned, and that a grade or rating by another person is only partially valid in determining if someone is truly successful (cf. Postman and Weingartner, 1969). In this project, I would have preferred to have obtained the individual goals of the students involved and then compared these at the end of the semester to determine if they had truly achieved their goals. But, for lack of a better method of determining success, I was forced to use the grade that they achieved on their final exams.

There were approximately 3,000 students who took this exam, and for the purposes of this study they will be referenced hereafter as **All Students**.

The SDL Research Project

In December 1993, I asked 20 teachers to identify students who exhibited one or more of the following behaviors:

a. Those who completed all homework assignments and did extra studying on their own.

b. Those who regularly participated in class by asking thoughtful questions.

c. Those who routinely consulted with teachers outside of class.

d. Those who regularly visited the Independent Learning Center or any other facility where they initiated a learning activity.

Out of a group of 720 students, teachers identified 86 students who fit into this group, and they will be referenced hereafter as **SDL Students**. You should note that students who completed all homework assignments and rarely asked questions in class were not included in this group even though they could be considered good students. In addition, this was not a true random sample, and as such it should not be construed that SDL students comprise about 11% of the total student body.

The other group of students were those who regularly used the Independent Learning Center (ILC), which is U.A.E.U.'s version of a self-access center. The ILC is comprised of several computers, audio tape recorders, video players, and CD-I which allow the students to engage in C.A.L.L. (Computer Assisted Language Learning) activities for the development of grammar and reading skills, listening activities with stand-alone audio-visual materials, and interactive programs on CD-I. Students are free to come and go as they please, and the center is staffed by one full-time language teacher, with one or more other language teachers providing supplemental assistance.

There were more than 795 students who used the ILC either one or more times during the semester. For purposes of this study, however, 164 students were randomly selected, and they will be referenced hereafter as **ILC Students**. Although most of the SDL students used the ILC, they were not included in the ILC students group.

The Results

The results of the final exam are as follows:

KIND OF STUDENT	PASSING RATIO	AVERAGE GRADE
All	73%	71/100
SDL	94%	83/100
ILC	85%	76/100

As you can see, both the SDL and the ILC Students had better results than regular students. Not only did more of them pass their final exam, but they passed with higher grades than the other students.

I also wanted to see if the number of times the ILC was used had any impact on the passing ratios or average grades of these students, and the results of looking at the ILC group based on frequency of use are as follows:

FREQUENCY OF USE	PASSING RATIO	AVERAGE GRADE
1	84%	77/100
2	90%	76/100
3	90%	74/100
4	83%	82/100
5	86%	75/100
6 or more	87%	76/100

As you can see, the students who used the ILC between two or three times or more than five times had a higher passing ratio than the others, however, students who used the ILC four times had the best average grade. Please note that none of this is meant to imply that simply using the ILC correlates to passing the final with an "X" percent pass ratio or an "X" percent grade. It only shows that of the students who used the ILC, the above factors were present. This is mainly due to the fact that it is inconceivable that a student (any student) could simply go to the ILC, use it just one time, and come away with an 84% chance of passing the final exam with a score of 77 out of 100.

What is more plausible, particularly in regards to students who had a very low frequency of use, is that using the ILC:

1. Helped them discover their weaknesses and they then engaged in other activities that helped strengthen those weaknesses; or

2. Convinced them that they already knew what they needed to know in order to be successful.

This is further supported by the fact that there does not seem to be any improvement in the passing ratio and average score based on frequency of use. It is clear from direct observation that using learning aids over a period of time enables learners to improve the skills being learned, and that there will be some progress noted with each subsequent use of the particular aid. Thus, the expected outcome would be that those students who rarely use the ILC would have a much lower passing ratio and average score than those using it frequently, and because the pattern displayed above is quite erratic, we know that other factors were involved in the passing ratios and average scores of these students.

In any case, it is clear from the above that the SDL students showed superior results when compared to the other students, and if the only criterion for determining success is the achievement of a passing grade on a final exam, we can see that SDL is very effective. I wish to reiterate the statement that I made above about using the grade achieved on an exam as the sole criterion for determining success because true success can only be determined by comparing the goals that students identify for themselves to the results that they actually achieve (cf. Cantor, 1946; Dunn, Harden, Holroyd, Lover, and Lindsay, 1969; Hills, 1976; Klein, 1991; and Postman and Weingartner, 1969). No grade can really do this unless that grade is the grade that the student assigns to himself, because a grade is a reflection of the learner's ability to master the goals and objectives that have been set for him by someone else, and therefore, it really is not completely valid in terms of measuring learning. But, for lack of a better measure, at least as far as this study is concerned (and as far as most schools and universities are concerned), we have to use the assigned grade as the sole criterion to base our judgment about the effectiveness of SDL.

The Role of SDL in Higher Education

The primary goals of SDL are to enable students to learn how to learn, use the skills learned during the learning process to relate new knowledge to existing knowledge, and evaluate their progress so that they will know when and how to make adjustments to what they need to know in order to achieve their learning objectives (cf. Anderson, 1970; Leach and Graves, 1973; and Van Houten, 1980). This, in essence, complements one of the main goals of higher education which is to provide students with opportunities to learn how to learn, so that the learning process can continue for the rest of their lives. However, first time university students are rarely prepared to handle university course work in this manner, because, for the most part, the learning process in secondary school is totally controlled. Students are told exactly what and how to study, and are tested to make sure that they have learned what they were supposed to learn. In university settings, however, students are generally left to their own initiative to learn, and it is there that for the first time (at least for many of them) they have to seek out issues and ideas and find resources to support their thoughts and hypotheses.

There needs to be a bridge between secondary school and university so that students are neither totally controlled nor completely left on their own. They need to be supported and guided in a system that helps them define their expectations and helps them achieve those expectations. Part of the process of learning is discovering what one does not know and by doing so, knowledge gaps can be eliminated, and ideas and theories can be more directly related. Self-directed projects can provide an ideal opportunity for students to develop the independent learning skills they will need to be successful academically, either in secondary school or university.

A good example of this approach is a project that was conducted by Hills (1976) at the University of Surrey in the early 1970s. He found that when first year university students were given self-administered evaluations to determine their pre-existing knowledge of the subject, and when resources (i.e., texts keyed to library-based reference materials, taped lectures, and tutors) were clearly identified and made available, these students were better able to cope with the demands of a course in chemical bonding, and were more successful (in terms of scores on a final exam) than students who only attended lectures and were left to their own initiative to determine what they needed to study.

The EFL (English as a Foreign Language) Department of the U.A.E. University noticed similar results with freshmen who were given the course syllabus, instructed in how to determine their own weaknesses, and guided through the process of identifying resources they could use to correct their weaknesses. These students generally felt more secure and at ease with the learning process and performed significantly better than their peers who were not exposed to the same approach (Hubbard, 1994a).

Another aspect of SDL is that it provides a means for teachers to evaluate how well they are eliciting "approach behaviors" (Mager, 1968). Approach behaviors are what people do when they are genuinely excited about or interested in something in which they are involved. For example, someone who really likes music will spend countless hours listening to music, collecting vintage recordings, talking about their favorite composers or performers, going to concerts, etc. This can be contrasted with "avoidance behaviors" which are the behaviors that people exhibit when they don't want to have any contact whatsoever with the subject. Thus, the degree to which our students go to the library to get more information about our subject, talk to their friends about this subject, and come to see us to clarify difficult issues or share ideas that are particularly interesting for them, is a direct reflection of our ability as educators to elicit approach behaviors. In other words, we will see our students displaying all the behaviors that clearly demonstrate that they are truly interested in our subject and have made it "their" subject.

In summary, people learn best when the subject is relevant to them, when they know what and how to study, and when they have specific goals that can be measured. In addition, their learning objectives are significantly improved when they are kept informed of their progress and when they are guided through the learning process by someone who seeks to develop independent learners (cf. Hubbard, 1994a). Encouraging and promoting SDL provides the foundation for learning that enables students to become involved in the learning process, and this gives them opportunities to discover the issues that are relevant to them and forces them to define their goals and objectives. It also encourages teachers to use their experience and expertise to assist in that process, so that everyone can come away with something that is beneficial, meaningful, and lasting.

So, what is the role of SDL in higher education? It encourages students to learn how to be life-long learners and it serves as a barometer for letting teachers know how well they are doing at inspiring their students to become enthusiastically independent learners. If we as educators make our subject interesting and relevant for our students by developing positive and creative learning environments, they will develop the skills and the motivation necessary to identify and pursue what is of interest to them. And, ultimately, this is what education is all about.

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